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PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

James Ching-Shau YIK et al.

Group Art Unit: 2134

Serial No. 09/866,259

Examiner: Roderick Tolentino

Filed: May 25, 2001

For: DATA NETWORK NODE HAVING ENHANCED SECURITY FEATURES

RESPONSE

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated September 18, 2006, applicant respectfully requests reconsideration of the rejection of pending claims 1-14.

The Examiner has rejected claims 1, 3-7, and 10-14 under 35 U.S.C. 102(b) as anticipated by Badger et al.'s paper "Digital Signature Protection of the OSPF Routing Protocol".

The Examiner contends that Badger discloses all of the features of claims 1, 3, 4, 5, 6, 7, 10 and 13 under 35 U.S.C. 102(b), and relies on the passage found at Section 4.3 Paragraphs 3-5 for those rejections. In particular the Examiner has stated that Badger discloses "a switching database having a plurality of switching entries", "a plurality of protection switching flags", "a controller executing a secure switching update process", and that "modification of a protected switching entry is prevented when the protection flag is set".

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Badger et al.'s paper describes that "routing protocols *distribute information* regarding the topology of the network among the routers of the network" (Section 1, paragraph 1, emphasis added), that a risk for this distributed information (communication) is that "new bogus routing information might be generated and inserted into the communication" (Section 1, paragraph 2), and such risks can be countered by "protecting the authenticity and integrity of routing information" (Section 1, paragraph 5). Badger et al. goes on to state that some network protocols rely on the "link state technique" to distribute said topology information, in which "each router gathers information on the state of its links to its neighbors and sends this information to the entire network" (Section 1, paragraph 6).

Badger et al. goes on to describe in Section 3, OSPF which is a *link state* routing protocol in which information advertised by each router is eventually flooded to every other router. This advertised information, which is the distributed information or communication described above, is in the form of linked state advertisements or LSAs. In Section 4, Badger et al. describes that "the basic idea of this design is to add *digital signatures* to OSPF LSA data, and to recommend the use of a neighbor-to-neighbor authentication algorithm (like keyed MD5) to protect all protocol exchanges" (Section 4, paragraph 1). The rest of Section 4 describes an authentication scheme used to protect the authenticity and integrity of the LSAs distributed throughout the network.

The passage of Badger et al. relied upon by the Examiner, namely Section 4.3 "Using authenticated routing information", describes how the LSAs include metrics for TOS (type of service) = Authenticated Routing, and how individual IP packets will be routed according to the TOS flag in their headers. If an IP packet has a TOS header indicating use of "authenticated

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routing” they will be routed through an SPF tree of authenticated routes. If the TOS flag of an IP packet is set to non-authenticated, the packet will be routed through an SPF tree of non-authenticated routes.

Badger et al.’s description of authenticating link state advertisements transmitted between routers and the associated routing of packets over either authenticated routers or non-authenticated routers based on the TOS flag, does not disclose the switching database of claim 1, the switching entry protection flags of claim 1, the controller executing the secure switching database update process of claim 1, nor the prevention of the modification of a switching entry when its protection flag is set.

Similarly, Badger et al. does not describe all of the features of each of independent claims 6, 7, 10, and 13. Applicant respectfully submits that Badger et al. has little to do with the subject matter of the present application.

Applicant submits that since Badger et al. does not teach all of the features of each of claims 1, 6, 7, 10, and 13, that Badger et al. does not anticipate claims 1, 6, 7, 10, and 13, and Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. 102(b) rejections thereof.

Applicant submits for at least the reason that not all of the features of each of claims 1, 6, 7, 10 and 13 are disclosed in Badger et al., that claims 3, 4, 5, 11, 12, and 14 are also not anticipated by Badger et al. and respectfully requests that the Examiner withdraw the 35 U.S.C. 102(b) rejections of claims 3, 4, 5, 11, 12, and 14.

The Examiner has rejected claim 2 under 35 U.S.C. 103(a) on the basis of obviousness over Badger et al. in view of Civanlar et al. (U.S. Patent No. 5,996,021), and has rejected claims

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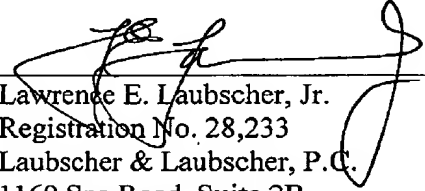
8 and 9 under 35 U.S.C. 103(a) on the basis of obviousness over Badger et al. in further view of Lubarsky et al. (U.S. Patent No. 4,893,340). To reject claims 2, 8 and 9 under 35 U.S.C. 103(a), the Examiner relied upon Badger et al. anticipating claims 1 and 7.

For at least the reason that claims 1 and 7 are not anticipated by Badger et al. as set forth above, Applicant submits that claims 2, 8, and 9 which depend therefrom have not been shown to be obvious in view of the cited references, and Applicant accordingly respectfully requests that the Examiner withdraw the 35 U.S.C. 103(a) rejections of dependent claims 2, 8, and 9.

Allowance of all claims 1-14 is courteously requested.

Respectfully submitted,

January 17, 2007

  
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Shelly Hubbard

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